



REVIEW ARTICLE



Setting a research agenda in trans health: An expert assessment of priorities and issues by trans and nonbinary researchers

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ABSTRACT

Background: This article is by a group of trans and nonbinary researchers and experts in the field of trans health who have conducted an analysis of trans health research needs.

Aims: To highlight topics that need further research and to outline key considerations for those conducting research in our field.

Methods: The first author conducted semi-structured interviews with all coauthors, and these were used to create a first draft of this manuscript. This draft was circulated to all authors, with edits made until consensus was reached among the authors.

Results: More comprehensive long-term research that centers trans people's experiences is needed on the risks and benefits of gender affirming hormones and surgeries. The trans health research field also needs to have a broader focus beyond medical transition or gender affirmation, including general health and routine healthcare; trans people's lives without, before, and after medical gender affirmation; and sexuality, fertility, and reproductive healthcare needs. More research is also needed on social determinants of health, including ways to make healthcare settings and other environments safer and more supportive; social and legal gender recognition; the needs of trans people who are most marginalized; and the ways in which healing happens within trans communities. The second part of this article highlights key considerations for researchers, the foremost being acknowledging trans community expertise and centering trans community members' input into research design and interpretation of findings, in advisory and/or researcher roles. Ethical considerations include maximizing benefits and minimizing harms (beneficence) and transparency and accountability to trans communities. Finally, we note the importance of conferences, grant funding, working with students, and multidisciplinary teams.

Discussion: This article outlines topics and issues needing further consideration to make the field of trans health research more responsive to the needs of trans people. This work is limited by our authorship group being mostly White, all being Anglophone, and residing in the Global North.



KEYWORDS

Trans health; gender affirming healthcare; social determinants of health; ethics

Trans health research has traditionally been conducted *on* trans communities rather than *with* or *by* trans communities, resulting in these communities having little input into research topics or the ways that research is interpreted (Ansara & Hegarty, 2012; Reisner et al., 2016; Rosenberg & Tilley, 2021). This has meant that research has overlooked many vital topics that are specific to trans communities (Reisner et al., 2016; Rosenberg &

Tilley, 2021; Wanta & Unger, 2017; Winter et al., 2016). In this article, we—a group of seven experienced researchers in the field who are trans and nonbinary ourselves—have assessed the topics that we believe require further research, and key considerations for the way research is conducted.

We use the broad umbrella definition of the term *trans* to include any person whose gender differs from societal expectations of the sex that

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Pronouns: JV she, LK they, CSA he/they.

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they were assigned at birth (Berg-Weger, 2016). This includes transgender, nonbinary, and other gender diverse people, although we note that language and terminology in this field are evolving rapidly, and there is not complete agreement within nonbinary communities about inclusion under the trans umbrella and individual nonbinary people may not personally identify as trans (Darwin, 2020). We use terms originating from the Global North, *trans* to describe our communities and the field of *trans health*, and *trans and nonbinary* to describe ourselves.

Methods

We are a group of leaders and experts in the field who have strong track records in research, collectively with over a century's experience in the field of trans health. Some of us also have extensive clinical experience in this field. The first author is a faculty/academic staff member in psychology who has been publishing in the field for over a decade. Through her networks, such as the World Professional Association for Transgender Health (WPATH) and the Transgender Professional Association for Transgender Health (TPATH), the first author approached 12 other researchers who had been working in trans health research at least as long. Researchers who were known to be retired were not approached. The lead author approached potential coauthors regardless of whether their position on issues in this field were closely aligned with hers.

Out of the 12 researchers approached to participate via email, three responded neither to the initial request nor a follow-up email; two responded that they were interested in participating, but they did not respond to further follow-up; and one responded that they were unavailable. This left six coauthors who participated in interviews; our authorship group live in North America, Western Europe, and Australasia (one colleague from the Global South was approached but declined to participate); we have representation of trans women, trans men, and nonbinary researchers; and our disciplines include gender studies, family and community medicine,

sexual health, psychology, and sociology. We expect that there will be researchers who the lead author overlooked due to her not knowing that they met the inclusion criteria and those who had previously met the lead author were more likely to participate. The lead author, however, has not regularly collaborated with any of the coauthors on research in the past.

Interviews were conducted via Zoom. These were semi-structured, based on the lead author asking each coauthor “what issues specific to trans health do you see need more research?” and “do you have any suggestions for the way trans health research should be conducted?”. Authors' responses to these questions became the basis of the two sections that form the body of this article, “topics in need of further research” and “considerations for researchers”.

The lead author listened to interview recordings, summarized the topics and key points made by each coauthor, and developed this into an initial draft of this article which highlighted to each coauthor where they could find each of the topics or key points they made. Coauthors then gave feedback and suggestions, and the lead author made changes based on this feedback. This process was repeated for a second and third draft, until authors agreed to submit the fourth version of the document for publication. All disagreements were resolved with discussion in the comments of the document and the lead author suggesting alternative wording based on the discussion.

Topics in need of further research

We begin this section by outlining the range of gender affirming care topics that we see need further research, then we note gaps in our knowledge about general health, and we conclude this section by highlighting the continued importance of research on social determinants of trans people's health. It was not feasible for us to fully review the literature for all of the broad range of topics we introduce in this section; instead, we focus highlighting where we see that research gaps exist, noting that some of this research might already be underway.

Gender affirming care

In many jurisdictions, gender affirming health-care—particularly surgeries—are not covered by insurance or publicly funded health services, and where funding is provided it is often contested and precarious. Because gender affirming care is often politicized, any researchers exploring this topic should be sensitive to this and be sure to acknowledge the immense benefits that this care brings by allowing trans people to more fully affirm and embody their genders (Kerckhof et al., 2019; T’Sjoen et al., 2020). Risks should be presented within the context of these benefits. In the second part of this article, we discuss how leadership and advice from trans community experts are crucial for minimizing the risk of trans health research being misinterpreted or misused. In the following sections, we discuss research needs for specific types of gender affirming care.

Hormones and pubertal suppression

More research is needed on gender affirming hormone use, especially long-term—10 years or more (see T’Sjoen et al., 2020 for a review of the evidence base for hormone use). Many authors have noted a need for biomedical research into the long-term effects of hormone usage on health, including interaction of hormone usage with pre-exposure prophylaxis medication and effects on those with preexisting medical conditions, as well as differences in health markers with earlier initiation of hormones with and without pubertal suppression (Deutsch et al., 2016; Iwamoto et al., 2019; Misiolek & Kattari, 2020; Olson-Kennedy et al., 2016; Reisner et al., 2016; Wanta & Unger, 2017). With an aging trans population, more research is needed on which doses and methods of administration of hormones are safe and effective at older ages, what trans people’s hormone-use goals and requirements are for end-of-life and palliative care (Iwamoto et al., 2019), and we would also like to see more research on dementia, cardiovascular disease, and polypharmacy. Research that includes trans people who both do and do not use hormones could help to separate out the unique influences of minority stress and hormone use on the physical health of trans

people as they age (Davis & Meier, 2014; Meier et al., 2011).

There have been generations of trans people who have acquired and managed their hormones themselves, with little research on their experiences and outcomes. Self-administration of hormones is seen almost exclusively as a negative outcome in the academic literature (Metastasio et al., 2018), but this could be considered resiliency, especially in regions where gender affirming hormone access is restricted. Having research to investigate how communities acquire this knowledge and maintain their health would be an important contribution.

Finally, more comprehensive research is needed to assess different gender affirming hormone doses and delivery modes, including comparative effectiveness of different approaches and dose responsiveness (Feldman et al., 2016). We would like to see research on individualized methods of hormone administration and dose ranges which target specific effects, such as voice deepening, facial hair, or breast growth (Hastings et al., 2021), investigation into the effects of progesterone on breast development or other aspects of desired changes, and noninferiority studies to examine whether a method of administration, regimen, or dose of hormones provides at least the same benefit as another (Deutsch et al., 2016; Iwamoto et al., 2019). We would also like to see for more research into the health impacts and timing of initiation and discontinuation of puberty suppression medication to maximize the health of trans people (de Vries et al., 2021; Olson-Kennedy et al., 2016). Research with larger sample sizes is needed to examine physical health outcomes related to medications and doses and responses in more detail (e.g., Dekker et al., 2016); this will help to further individualize gender affirming hormone care. Continuing to develop methods of pooling data and coordinating research efforts across clinical sites will be particularly helpful to achieve larger sample sizes (Feldman et al., 2016).

Surgeries

As with hormones, there is a sparsity of research that has followed trans people for more than a

few years concerning effects of gender affirming surgeries (T'Sjoen et al., 2020), meaning that little is known about outcomes of gender affirming surgeries after 10 years or longer. Most of the research on surgeries in this field has focused on surgeries on reproductive organs; there has been relatively less independent systematic research into the health benefits and risks of facial surgery, voice surgery, tracheal reduction surgery, chest reconstruction, breast augmentation, orchiectomy, and hysterectomy with and without mono- or bilateral oophorectomy.

We are concerned about the lack of robust, independent research on the quality of surgical care to help trans people make informed choices. Specifically, research on gender affirming surgeries has largely been confined to individual surgeons following up with their own patients' or their colleagues' surgeries. We would like to see greater transparency from surgeons regarding their complication rates and how often they are revising another surgeon's work. Reports from trans people about the quality of their post-operative care vary widely, even with highly skilled and very experienced surgeons, so we need research to inform best practices for post-operative cares. Trans people often "shop around" for surgeons, and in doing so many choose to travel long distances—this is particularly the case in places where gender affirming surgeries are not funded publicly or by insurance. Trans people may make these important decisions about surgery based on the best evidence available to them, which may be anecdotal evidence, such as online reviews or hearing about the experiences of a limited number of other trans people in their social network. Finally, in many countries, there is only one surgeon for people choose from, meaning their only "choice" is to choose the one surgeon offering this in their country or to self-pay in another country. These issues are exacerbated by the current shortage of specialized training and accountability for surgeons conducting these surgeries.

More research is needed to empower trans people to be able to make more informed surgical choices, including research into the satisfaction and risks of these surgeries that is independent of surgeons so that trans people can make more

informed choices about surgeries (Feldman et al., 2016; McNichols et al., 2020; Misiolek & Kattari, 2020; Reisner et al., 2016; Robinson et al., 2021; Zwickl et al., 2019). Outcome measures for studies of these surgeries are often based on what surgeons believe are the best outcomes, which may focus on evaluations of technical success or failure, with fewer studies including patient outcome reports. More research is needed using patient reported outcome measures, with standardized metrics developed for measuring outcomes that have been validated on trans populations. There have been numerous studies which have used scales not validated on trans populations; for example, studies have shown that following vaginoplasties, scores are lower on the female sexual function index (e.g., Buncamper et al., 2015) than are seen with cis women, without consideration that endogenous lubrication—an important component of the index—does not occur after penile-inversion vaginoplasty. Future research should investigate reasons for any discrepancy between surgeons' and patients' reports of the outcomes, as well as patients' perceptions about outcomes meeting their expectations as well as individualized goals. We would also like to see more research attention given to psychosocial considerations, such as how gender affirming surgeries affect interpersonal functioning.

Additional methods of gender affirmation

There has been relatively little research on aspects of gender affirmation that are outside of the field of medicine. We have identified the following three important areas as needing further research, which have also been recognized as gaps in our knowledge in recent publications (Block et al., 2018; Blotner & Rajunov, 2018; Iwamoto et al., 2019; Peitzmeier et al., 2017; Zwickl et al., 2019):

- The effects of chest binding (wearing a compression shirt or other materials for chest flattening).
- The effects of genital tucking.
- The efficacy of different hair-removal methods and how they relate to different timing of estrogen initiation and outcomes associated with genital reconstructive surgeries.

- The impact of different vocal training and compensation techniques on voice satisfaction and voice complaints, especially for those seeking voice masculinization, as most of the research has been conducted on those seeking voice feminization.

Trans health beyond medical or surgical transition: General health and healthcare

Health throughout the lifespan

The overwhelming majority of clinical research appears to include trans people who are just before transition or in the process of transition; there has been relatively little research including those trans people who have not yet, do not need to, or choose not to contact health professionals. This is likely to be because the majority of healthcare providers who conduct this research do not have contact with trans people outside their clinical setting. With people receiving gender affirming hormones and surgeries at younger ages, there are many decades of potential follow-up to research outcomes for trans people's bodies and health, but most clinical research has not followed trans people for more than a few years since they commenced hormones or underwent surgery.

We would like to see more research on the longitudinal trajectories of identity development, social transition, coming out, and accessing care, particularly within the context of sociocultural shifts that are facilitating earlier exploration and affirmation (e.g., children who socially transition). The experiences of nonbinary and gender-fluid people have also typically been absent from this literature. More research is also needed to better understand the mental and physical health implications, and associated needs, of those who discontinue gender affirming care, either temporarily or indefinitely.

Finally, we also need research on the best ways to co-ordinate multidisciplinary care for trans people throughout their lifespan. In particular, we would like to see research to improve processes for transferring and coordinating care across settings, for example, transitioning care from pediatric to adult settings and coordinating care between endocrine, primary care, and

surgical providers (Ehrensaft et al., 2019; Pham et al., 2021).

General and routine healthcare

Trans people are more than just their transitions, and more attention should be given to their general health and routine healthcare needs throughout their lifetimes, such as, renal health, cardiovascular health, and endocrine issues in addition to gender affirming hormones (e.g., Shires et al., 2018).

Reference intervals for clinical laboratory results—including estrogen, testosterone, and others with sex differences, such as creatinine and red blood cell count—are based on calculations from research conducted on presumably overwhelmingly endosex (nonintersex) cisgender men and women. More research is needed into what reference ranges should be used for trans people, particularly those who take gender affirming hormones (Marzinke & Radix, 2021). We may need to use more complex algorithms to calculate these reference ranges; for example, including the number of years that a person has been taking estrogen or testosterone.

There needs to be more research on issues specific to trans people's access to healthcare screening, especially in the areas of cancer screening (Winter et al., 2016) and sexual health screening. For example, little is known about breast cancer screening needs for trans people who have received chest reconstruction surgery. We also know very little about how to screen for breast cancer for trans people whose hormone regimen has included estrogen. Because there are false positives associated with over-screening for breast cancer in populations that are at low risk (Hofvind et al., 2012), research is needed to find out what the actual risk of cancer is, to inform whether we should be screening at all, and, if so, how, and at what ages.

Sexuality and reproductive healthcare

Historically, much research on trans people's sexuality—especially research that was not conducted by trans people or those who are connected to trans people—has used an endo-cis-heteronormative¹, individualistic, deficit-based, and often pathologizing lens (see Galupo et al., 2016 for a

review). While this is changing, more research is needed on trans people's sexuality which includes sexual pleasure and sexual experiences considered within the context of sexual, romantic, and family relationships (Feldman et al., 2016; Holt et al., 2022; Meier, Pardo, et al., 2013; Meier, Sharp, et al., 2013; T'Sjoen et al., 2020). Such efforts should be inclusive of solo sexuality, asexuality, and nonmonogamy. Research on contraceptive counseling, use, and effectiveness in trans communities has also been limited.

There are significant cost barriers for trans people to be able to access fertility preservation in many parts of the world, particularly for those requiring egg preservation, which is often expensive even in many wealthy countries (e.g., Compton, 2019). Trans people have experimented with suspending hormone use to become pregnant or have their partner become pregnant (Light et al., 2014), leaving academic research lagging behind in understanding this phenomenon (Defreyne et al., 2020; Misiolek & Kattari, 2020). Further research is needed to inform trans people about the impacts of particular gender affirming hormones on fertility and the efficacy of different fertility preservation options (Feldman et al., 2016; Iwamoto et al., 2019; Misiolek & Kattari, 2020).

While a few studies have been conducted on trans men's experiences with pregnancy (e.g., Light et al., 2014; Riggs et al., 2020, 2021), there has been little research on trans people's parenting experiences more generally (e.g., Walls et al., 2018, 2019) and navigating highly gendered healthcare spaces, such as "women's" clinics (e.g., Pulice-Farrow et al., 2020; Seelman & Poteat, 2020). Research on the lactation and the reproductive care experiences of all trans people (including trans men, women, nonbinary, and other gender diverse people) has been almost entirely overlooked (García-Acosta et al., 2019). Research is also needed on other family building options, such as adoption, surrogacy, and gamete donation, as trans people are likely to have unique experiences and barriers associated with these avenues.

Social determinants of health

There is now a significant body of research on the social determinants of health for trans people

underpinning the serious health inequities that they face. In particular, studies have found evidence for gender minority stress from harassment, assault, prejudice, discrimination, and rejection for being trans (e.g., Bockting et al., 2013; James et al., 2016; Nuttbrock et al., 2010; Sugano et al., 2006; Tan et al., 2021; Veale, Peter, et al., 2017). The most stark inequities have been found in the area of mental health, with high rates of suicidal ideation and attempts indicating that these social determinants and gender minority stress can become life-threatening (e.g., Clark et al., 2014; James et al., 2016; Sugano et al., 2006; Tan et al., 2020; Treharne et al., 2020; Veale, Watson, et al., 2017).

We would like to see more research on the biomedical impacts of gender minority stress, such as increased cortisol (DuBois et al., 2017); and mediating factors, such as substance use, as well as on intersectionality and synergistically additive stress for those who experience more than one dimension of exclusion or discrimination—for example, racism, colonialism, classism, and ableism.

While research on inequities and gender minority stress can be useful to establish harm or injury in order to advocate for positive change to address inequities societal injustices, we caution that there may be limits to the usefulness of deficit and damage-centered research (Tuck, 2009). Indigenous scholars have noted that this type of research can depict marginalized groups as broken and helpless, which may reinforce narratives that the marginalized group is defined by their oppression, having the unintended consequence of pathologizing that group² (Tuck, 2009; see also, Riggs & Treharne, 2017). Therefore, we would like to see research continue to also focus on how trans people build resilience in the face of these stressors.

The foundational places where people build self-esteem and self-efficacy—such as, families, schools, friends, religion—often, unfortunately, serve as sources of violence and rejection for trans people. While a significant body of research exists on how having supportive family members, friends, schools and workplaces, and healthcare providers is related to trans people having better mental health (e.g., Puckett et al., 2019; Tan

et al., 2020), further research is needed into the ways to support families, schools, friends, workplaces, and religious communities, to become places where trans people feel valued and supported.

Trans people themselves are usually the sole focus of trans health research. With the younger age of people coming out as trans, there are many more people involved in trans children's lives, such as at their schools and in their families (Dierckx et al., 2016). The field of trans health could look at health more holistically by having greater focus on the health of trans people's parents, families, partners, and other key relationships. We know from reports of mental health clinicians working in this field that they often need to work with anxiety among the (usually cisgender) parents and family members of their patients or clients, so that their anxiety is not negatively impacting the health of the trans person (Coolhart, 2018). Researching social determinants of health allows us to decenter the focus from just trans people and include issues in the broader environment or family systems that need addressing. We would like to see more research in this area looking into the processes that parents and family members go through and the ways that they make meaning about having a trans family member (Dierckx et al., 2016, 2017, 2019; Lev, 2004).

Societal stigma and transphobia, and government policies and legislation that accompany this, are also important social determinants of health deserving of more research. The vast majority of trans people worldwide do not have access to legal recognition of their gender, or have to undergo sterilization medical procedures in order to achieve legal recognition (Bauer et al., 2015; Byrne, 2013; Winter et al., 2016). More research is needed to evaluate the health benefits of legal gender recognition, anti-discrimination legislation, and other affirming legislation and policies for trans people (Olson-Kennedy et al., 2016; Winter et al., 2016). With limited resourcing, it would be useful to have research to inform us about which specific legislation and policy changes would be most impactful for policymakers and trans community advocates to achieve, and we could then use this research to advocate for these changes.

We would also like to see research on the sociocultural and political forces that give rise to various anti-trans movements. For example, there have been legislative attempts to restrict trans people's access to bathrooms, hormones (especially for adolescents), and sports. It would be helpful to have research to inform us about the most effective strategies for combating these movements. A recent ecological study by Lamontagne et al. (2018) included an index of both legislative and social homophobia; we would like to see similar research for legislative and social transphobia and see this is related to health outcomes.

Social gender recognition—such as having pronouns (e.g., he, she, they) respected—also serves as an important protective factor for trans people (e.g., Brown et al., 2020; Russell et al., 2018; Sequeira et al., 2020). More research needs to be conducted on the experiences and barriers trans people face to access social and competitive sports, bathrooms and changing room spaces, and other experiences of segregation into binary genders (see Dubin et al., 2021 for a recent exemplar), and we would like to see prioritization for research on interventions to address these barriers. We would also like to see more research into the impacts of avoiding these spaces, such as restricted fluid intake and urinary tract infections (e.g., James et al., 2016), which may be especially relevant for nonbinary and gender nonconforming people.

This section outlined some research needs related to the stigma and violence enacted on trans people. Unfortunately, this violence enacted on trans people can result in some trans people hurting each other as a form of lateral violence (also known as horizontal violence; David & Derthick, 2017). We know from research among other marginalized populations that it is important that healing from this kind of trauma happens within the communities affected (see Chioneso et al., 2020 for a review). Trans people need to heal ourselves as well as to heal each other, and elder and mentor/mentee connections are likely to be important for this. We need research to identify the important things that trans people can do for each other to promote collective healing and how cisgender people can best support us in doing this.

Healthcare settings and providers

Healthcare settings may also play a role in perpetuating trans people's health inequities, through being sources of discrimination, particularly for those who are disabled, lower-income, and people of color; being difficult to navigate, especially in complex and multidisciplinary care settings; cost and transportation barriers; and by a lack of trans cultural awareness and humility³ among providers, which particularly impacts nonbinary people (Burgwal & Motmans, 2021; Clark et al., 2018; dickey et al., 2016; Kattari et al., 2015, 2020, 2021; Puckett et al., 2018; Ross et al., 2021; Shires & Jaffee, 2015). Lengthy assessment processes (and the staffing required in these models of care), particularly for children and adolescents, could cause barriers to accessing care, such as long waitlists and a scarcity of clinics (Berg & Edwards-Leeper, 2018). More research is needed on ways to reduce burden, increase efficiency, and optimize quality of care in resource-limited settings where multidisciplinary teams or specialists are not available.

Research on healthcare settings could focus on areas of opportunity for quality improvement, such as assessing the amount of misgendering that trans people experience in healthcare settings (St. Amand et al., 2020), and what systemic changes—such as updating name and gender markers—can be done to improve this. We are aware of very little research into electronic medical records that has given trans people a say about what is most appropriate to include in electronic medical records to ensure that they are fairly and accurately represented. Research on this topic would need to consider privacy concerns and under what circumstances this information needs to be shared and with who (Iwamoto et al., 2019; Lau et al., 2020).

There are guides and training programs that have been developed to make healthcare settings more welcoming and to educate healthcare providers in trans cultural awareness and humility, but research is needed on whether these are effective, what makes them so, and how we could make them more effective in creating improved health outcomes for trans people who access these settings. While there have been a few

studies on trans health training for medical students and providers (see Hana et al., 2021 for a review), we would like to see this broadened to include mental health providers and experienced health professionals. Some psychotherapy approaches have also been adapted to better meet the needs of trans clients (Budge et al., 2021; Hendricks & Testa, 2012; Matsuno, 2019; Rider et al., 2019), which appears to be a useful step forward; evaluating the usefulness of these adaptations, from both clients' and providers' perspectives, would be an important avenue for future research (e.g., Budge et al., 2021). We would like to see more research on the development, implementation, and effectiveness of interventions aimed at improving mental health, particularly using innovative methods able to reach individuals with barriers to traditional models of care (e.g., web-, mobile-, community-, or peer-based interventions).

Standards of care have a history of imposing requirements for people to be able to access gender affirming care which are based on predominantly cisgender "expert professional consensus" (Coleman et al., 2012, p. 165). Further research is needed to provide stronger evidence to inform these guidelines (Feldman et al., 2016). For example, the Version 7 WPATH Standards of Care have a requirement to obtain an assessment by one or more mental health professionals to access surgery (Coleman et al., 2012), but data are lacking on what components of such an assessment would result in improved post-surgical outcomes (Deutsch, 2016).

There are many topics outlined in this section that we see need further research. Given the serious health inequities that trans people face, it is important that research on these topics occurs. The way that the research is conducted, however, is also immensely important. In the next section of this article, we discuss key issues for consideration when undertaking trans health research.

Considerations for researchers

We have identified the role of trans people, ethics, and research environment considerations, as key issues facing those undertaking trans health research.

The role of trans people in trans health research

There are growing calls for trans people to be given meaningful input into trans health research at all stages of research, from deciding which questions to ask, to interpreting and disseminating the findings, and this input should be compensated with payment and/or authorship (e.g., Deutsch et al., 2016; dickey et al., 2016; Reisner et al., 2016; Rosenberg & Tilley, 2021; T'Sjoen et al., 2017). People who have a family member or partner who is trans can also play important roles as supports and advocates of trans people. Trans community involvement will increase the likelihood that research is conducted using appropriate language, the goals of the research will best align with the needs of the population, there will be higher trust and participation from trans communities, and the research will have a positive impact on the policy environment and, eventually, the overall health of trans people (Adams et al., 2017; American Psychological Association, 2015; Bauer et al., 2019; Deutsch et al., 2016; Misiolek & Kattari, 2020; Owen-Smith et al., 2016; Vincent, 2018; Winter et al., 2016). When working in socially conservative regions, an additional consideration is the heavy burden on trans people undertaking community involvement with research projects (Lacombe-Duncan & Logie, 2021). There are guidelines and models of trans community engagement that have already been developed (Bauer et al., 2019). We could also adapt models of engaging with people living with HIV/AIDS and native/indigenous communities that are trauma-informed and based on meaningful engagement, mutual trust, and power sharing (Shimmin et al., 2017) for trans communities.

Researchers receiving advice from a community-advisory group (CAG) need to integrate advice from CAG members with their own expertise as researchers, considering what is feasible and practical. Investigators may need to provide additional support—such as extra training—so that CAG members can better understand the research process and constraints that they face; this will allow CAG members to work alongside investigators to develop potential solutions that will both meet the needs of the study and be sensitive to any concerns of community

members. While a CAG has the advantage of more in-depth advice over the lifespan of the project, to obtain input from a larger number of perspectives, researchers could consider surveying trans people about what trans people want to know about themselves and what they think should be a priority (see Misiolek & Kattari, 2020; Stewart et al., 2017; Zwickl et al., 2019 for recent examples).

An important foundational step for health research on marginalized communities is to center leadership from within those communities; trans health is no exception, and it is becoming increasingly noticeable when trans researchers are absent from positions of leadership, power, and influence in research projects. There are now many qualified academics and researchers who are themselves trans, who bring lived experience and authenticity, which could help to produce research that is less biased and more credible (Adams et al., 2017; Galupo, 2017; Rosenberg & Tilley, 2021).

Although there are more trans academics and researchers today, we are still a minority in the field; therefore, we recommend that research investigators working in this field prioritize the development of trans students and early career researchers to reduce this imbalance for the future generations of researchers (Adams et al., 2017; Veale, 2017). As much as possible, we would like to see trans health research led by researchers who are trans, with cisgender researchers continuing to provide valuable expertise and collaboration.

Attention should be given to supporting the professional and career development of trans people interested in the trans health field. The same social determinants of health mentioned above will also likely have an impact on educational and professional development. Special efforts should be made to bring equity of opportunity to trans and nonbinary people who have experienced hardships in their educational and career pathways. Structural barriers may exist to these efforts; for example, in the United States, trans people are not recognized as an under-represented minority in the health and related fields, while other dimensions of identity and experience such as race and female gender are.

Finally, even with more trans people involved in projects as researchers, there is still value in including perspectives of trans people from the wider community who are not researchers. Doing so allows trans researchers—who often hold relatively privileged positions within trans communities—to be accountable to our communities; it would also allow research projects to benefit from a broader range of community perspectives.

Ethics considerations

While there are many research ethics considerations for those conducting trans health research, here we highlight and discuss two issues that we have identified as currently important: beneficence and transparency.

It has long been accepted that researchers have an ethical obligation to maximize benefits and minimize harms to research participants (beneficence) and report research findings in ways that respect participants and considers their welfare (National Health and Medical Research Council, 2015; Tajir, 2018). Unfortunately, there are many examples of trans health research being weaponized to be used in harmful ways by opponents of trans people's rights; an example is the concept of "rapid-onset gender dysphoria" (see Restar, 2020 for a critique), which WPATH warned could be used "to instill fear about the possibility that an adolescent may or may not be trans with the *a priori* goal of limiting consideration of all appropriate treatment options" (WPATH, 2018, p. 1). Other studies—such as Dhejne et al.'s (2011) study of trans people's mental health and suicidality—have been misinterpreted and misused to promote harmful policies and the pathologization of trans people, regardless of the intent of the studies' authors (Adams et al., 2017; Bouman et al., 2017).

To reduce the likelihood of this harm occurring, researchers in the field should integrate trans people in the research team as a form of harm reduction and have an active interest and awareness of the context in which their research will land: a context of widespread prejudice and chronic stigmatization of trans people. This awareness will help researchers to present their findings in ways

that reduce the likelihood of them being misinterpreted and misused to harm trans people, while also allowing researchers to better understand and interpret their findings. Researchers should also be aware of ideas and theories in the trans health field that are based on flawed and incorrect assumptions (e.g., pathologization) that do not sufficiently consider social context. Researchers should also consider using their knowledge and expertise to speak out against injustices and harmful contemporary issues in the field; for example, professional associations for trans health recently spoke out about the 2020 Bell versus Tavistock court ruling in London, England, which was later overturned (*Bell and another v. The Tavistock and Portman NHS Foundation Trust and others*, 2021; WPATH, EPATH, USPATH, AsiaPATH, CPATH, AusPATH, PATHA, n.d.).

Alongside beneficence, transparency is important for ethical trans health research. Vincent (2018) noted that researchers should be transparent with disclosures of who they are, what their backgrounds are, how they engaged trans people during the research. Vincent also noted that researchers should have awareness of barriers to participation and participant burden and whether there might have been pressure on participants to complete the study because the research was for a clinic that would also grant them access to gender affirming care.

We recommend research guidelines published by the Canadian Professional Association for Transgender Health (Bauer et al., 2019) and the European Professional Association for Transgender Health (2019), and academic literature (Adams et al., 2017; Vincent, 2018), for more comprehensive and in-depth guidance about ethical trans health research.

Research environments and processes

Among the many factors in the process of conducting trans health research that should also be considered by researchers in this field, we have chosen to highlight the use of convenience samples, students and multidisciplinary teams, conferences, and grant funding.

Trans health researchers using clinical or other convenience samples should be aware of potential

sampling biases. As with other types of health research, those who are the most marginalized are those likely to face the largest health burdens, and they are also the most likely to face barriers to participating in research (dickey et al., 2016; Reisner et al., 2014). Researchers have an obligation to not overlook the needs of these communities, and more studies are needed that center the needs of those who are most marginalized.

The field of trans health is rapidly growing, and many of us have noticed more students interested in trans health research. We recommend guidelines for language use (e.g., Bouman et al., 2017) and research ethics (Adams et al., 2017; Bauer et al., 2019; European Professional Association for Transgender Health, 2019; Vincent, 2018) for those who are new to the field. Encouraging students to be part of larger research project teams or using existing datasets could help reduce the research fatigue reported by some in trans communities (Ashley, 2020).

When undertaking large projects in this field, there is great value in multidisciplinary research teams. Such teams can bring a broader range of research methods to the table, increase opportunity for learning among all research team members, and allow a more holistic view of trans health. In our experience, the inclusion of social scientists has been highly valued in research projects that had previously only included researchers from clinical disciplines.

Conferences, and the networking and relationship building that goes with them, are important in any research field. Trans health conferences, especially those that are led by trans people or have trans people's perspectives centered, are helpful for trans researchers to build the connections that they need. The authorship group of the present article is a case in point, in that many of us have only had the chance to meet via such conferences.

The serious health inequities faced by trans people mean that it is crucial that the field of trans health receives more research grant funding. This funding could be used for recruiting collaborators and research assistants who are trans and to ensure fair payment of participants to compensate them for their time. Trans people should be setting the agenda for this funding,

and, of course, the topics we identified in the first section of this article are ones that we believe should be considered.

Limitations

A significant limitation of this work is that our authorship group is limited to Anglophones and does not include people who are disabled or from the Global South; we also have limited ethnic/racial diversity and do not span the full range of disciplines working in trans health. There are also many excellent researchers in the field who are trans who are not authors of this paper. This means that this analysis will not be comprehensive, and we do not claim it to be.

Another limitation is the method of using separate individual interviews and feedback, which makes it more difficult for this article to be presented as a synergistic whole than it might have been if we included group discussion. We made our best effort to integrate and synthesize the different topics and considerations during the drafting of this article. Our individual interview method, however, had the advantage of ensuring each author's suggestions are given equal consideration in this article. Future work in this area could consider using focus groups, but this was not practical for this article due to time zones and scheduling issues. Despite these limitations, we think that this expert assessment will be helpful to our colleagues conducting trans health research.

Conclusions

Other work has outlined research priorities in the field of trans health based on literature review (dickey et al., 2016; Feldman et al., 2016; Iwamoto et al., 2019; Olson-Kennedy et al., 2016; Reisner et al., 2016), and trans community expertise (Blotner & Rajunov, 2018; Misiolek & Kattari, 2020; Stewart et al., 2017; Zwickl et al., 2019). This article adds to the literature by being more up-to-date and including the active knowledge of authors who bring both research experience (including knowledge of the academic literature) as well as lived experience and trans community expertise. While there is some overlap between

the topics and issues outlined in this article and the previous work that has identified research priorities—and we cited the previous work where we see this overlap exists—we have also introduced many new topics and issues here. Despite the limitations with representation among our authorship group, we hope that the issues and considerations discussed in this article are helpful as a small part of the movement of the field toward being more responsive to the needs of trans communities.

Notes

1. Hastings et al. (2021, p. e186) defined this as “the assumptions that endosex (someone whose sex characteristics are expected for the male or female sex, ie, someone who is not intersex), cisgender, and heterosexuality are ‘normal’”.
2. We thank an anonymous reviewer for alerting us to this point.
3. We use the term *awareness and humility* here because it broadly encompasses accountability, power differentials between providers and service users and acknowledges systemic inequities (Fisher-Borne et al., 2015; Tervalon & Murray-García, 1998), although not all authors agreed with this terminology.

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical Approval

This article does not contain any studies with human participants performed by any of the authors.

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